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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/897,573	07/02/2001	Richard J. Markle	2000.089400	1243

23720 7590 01/29/2007  
WILLIAMS, MORGAN & AMERSON  
10333 RICHMOND, SUITE 1100  
HOUSTON, TX 77042

EXAMINER
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STOCK JR, GORDON J

ART UNIT	PAPER NUMBER
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2877

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/29/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

09/897,573

Applicant(s)

MARKLE ET AL.

Examiner

Gordon J. Stock

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-41 and 45-47 is/are allowed.
- 6) ☒ Claim(s) 1-26, 42-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The Amendment received on November 13, 2006 has been entered into the record.

#### *Claim Rejections - 35 USC § 101*

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claims 1-26** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

**Claims 1-26** are directed to a judicial exception; as such, pursuant to the Interim Guidelines on Patent Eligible Subject Matter (MPEP 2106), the claims must have either physical transformation and/or a useful, concrete and tangible result. The claims fail to include transformation from one physical state to another. Although, the claims appear useful and concrete, there does not appear to be a tangible result claimed. Merely 'determining a/the dimension of the grid' (the determining step is an abstract idea without a tangible result of **claims 1, 2, 8, 11, 19, )**; 'determining at least one parameter' (the determining step is an abstract idea without a tangible result of **claims 3-6, 12-15, 20-23**); 'identifying a fault condition' (the identifying step is an abstract idea without a tangible result of **claims 9, 17, and 25**); and 'determining at least one of a width dimension .. sidewall angle dimension' (the determining step is an abstract idea without a tangible result of **claims 10, 18, and 26**) would not appear to be sufficient to constitute a tangible result, since the outcome of the determining/identifying step has not been used in a disclosed practical application nor made available in such a manner that its usefulness in a disclosed practical application can be realized. As such, the subject matter of the claims is not patent eligible. **Claims 7, 16, and 24** are rejected for depending upon a rejected

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base claim; wherein **claims 7, 16, and 24** further limiting of the parent claim still does not constitute a tangible result.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 42-44** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Marinaro et al. (6,051,348)**—cited by applicant.

As for claims **42-44**, Marinaro in a method for detecting adjustment error in photolithographic stepping printer discloses the following: a test structure comprising a first plurality of lines and a second plurality of lines intersecting the first plurality of lines, the first and second pluralities of lines defining a grid (**claim 42**)(Fig. 5: 34); further comprising a processing layer, a photoresist layer, the grid being defined in the process layer (**claims 43-44**)(col. 3, lines 15-20 and lines 34-37; col. 4, lines 13-15). Marinaro does not explicitly state that the grid pattern has openings; however, he teaches positive photoresist process (col. 1, lines 25-30). Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made that the grid pattern had openings for the regions between the intersecting lines would dissolve away during development to create openings when created via a positive photoresist process.

***Allowable Subject Matter***

6. **Claims 27-41 and 45-47** are allowed.

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**Claims 1-26** would be allowed if rewritten to overcome the rejection under 35 U.S.C. 101 mentioned above.

As to **claim 1**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for determining grid dimensions the particular determining step, in combination with the rest of the limitations of **claims 1, 3, 5, 7-10**.

As to **claim 3**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for determining grid dimensions determining the dimension of the grid based on the grid dimension metric, in combination with the rest of the limitations of **claim 3**.

As to **claim 4**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for determining grid dimensions the particular determining at least one parameter of an operating recipe of an etch tool, in combination with the rest of the limitations of **claim 4**.

As to **claim 6**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for determining grid dimensions the particular determining at least one parameter of an operating recipe of a photolithography tool, in combination with the rest of the limitations of **claim 6**.

As to **claim 11**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for determining grid dimensions determining the dimension of the grid based on the grid dimension metric, in combination with the rest of the limitations of **claims 11, 12, 14, 16-18**.

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As to **claim 13**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for determining grid dimensions the particular determining at least one parameter of an operating recipe of an etch tool, in combination with the rest of the limitations of **claim 13**.

As to **claim 15**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for determining grid dimensions the particular determining at least one parameter of an operating recipe of a photolithography tool, in combination with the rest of the limitations of **claim 15**.

As to **claim 19**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for determining grid dimensions the particular determining step, in combination with the rest of the limitations of **claims 19, 20, 22, 24-26**.

As to **claim 21**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for determining grid dimensions the particular determining at least one parameter of an operating recipe of an etch tool, in combination with the rest of the limitations of **claim 21**.

As to **claim 23**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a method for determining grid dimensions the particular determining at least one parameter of an operating recipe of a photolithography tool, in combination with the rest of the limitations of **claim 23**.

As to **claim 27**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a metrology tool the particular data processing unit, in combination with the rest of the limitations of **claims 27-31**.

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As to **claim 32**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a processing line the particular controller and data processing unit, in combination with the rest of the limitations of **claims 32-36, and 39**.

As to **claim 37**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a processing line the particular controller, in combination with the rest of the limitations of **claim 37**.

As to **claim 38**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a processing line the particular controller and data processing unit, in combination with the rest of the limitations of **claim 38**.

As to **claims 40-41**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a metrology tool the particular data processing unit, in combination with the rest of the limitations of **claims 40-41**.

As to **claim 45**, the prior art of record, taken alone or in combination, fails to disclose or render obvious in a metrology tool the particular means for determining a dimension of the grid, in combination with the rest of the limitations of **claims 45-47**.

#### *Response to Arguments*

7. Applicant's arguments, see Remarks, filed November 13, 2006, with respect to the rejection(s) of **claim(s) 1, 2, 5-11, 14-19, 22-36, 38-41, 45-47** under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection has been made to **claims 1-26** under 35 U.S.C. 101. Examiner apologizes for the inconvenience. Applicant's arguments filed November 13, 2006 in regards to the previous rejection of **claims 42-44** under 35 U.S.C. 103(a) have been

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fully considered but they are not persuasive. Specifically, Remarks of pages 24-25 refer to argument on page 21 that there is no motivation to provide a test structure to generate a reflection profile in Marinaro '348. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., 'generating a reflection profile' and a 'grid called for in claim 1,' suggesting that 'the test structure' of **claim 14** has the limitations of **claim 1**) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

### *Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent 4,360,269 to Iwamoto et al. (specifically, Figs. 1a, 1b, and 2).  
JP 61207583 A to Kamimura et al. (specifically, Figs. 2a and 2b)

### *Fax/Telephone Numbers*

If the applicant wishes to send a fax dealing with either a proposed amendment or a discussion with a phone interview, then the fax should:

- 1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the fax cover sheet; and
- 2) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.



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*Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP-4 Fax Machine number is: (571) 273-8300*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon J. Stock whose telephone number is (571) 272-2431.

The examiner can normally be reached on Monday-Friday, 10:00 a.m. - 6:30 p.m.

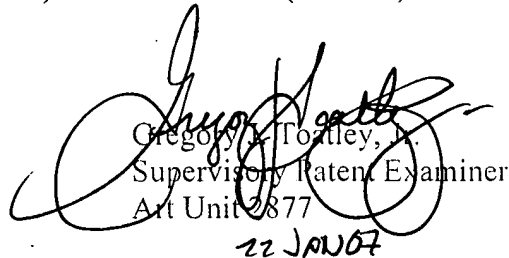
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr., can be reached at 571-272-2800 ext 77.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DD

gs

January 18, 2007

  
Gregory J. Toatley, Jr.  
Supervisory Patent Examiner  
Art Unit 2877  
22 JAN 07